

# HERP (L-13): sc-69495

## BACKGROUND

The endoplasmic reticulum (ER) stress response is triggered by the accumulation of unfolded proteins within the ER and is characterized by three events: the inhibition of translation (to prevent further protein accumulation), the up-regulated expression of polypeptide-folding proteins (known as the unfolded protein response, or UPR) and the degradation of misfolded proteins by the ER-associated protein degradation (ERAD) system. HERP, also known as HERPUD1 (homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1), SUP or MIF1, is a 391 amino acid multi-pass membrane protein that localizes to the ER and contains one N-terminal ubiquitin-like domain. Widely expressed with highest expression in the brain, HERP is a component of the ERAD system and, via its ubiquitin-like domain, is thought to be involved in the destruction of misfolded proteins. Three isoforms of HERP exist due to alternative splicing events.

## REFERENCES

1. van Laar, T., et al. 2000. The novel MMS-inducible gene Mif1/KIAA0025 is a target of the unfolded protein response pathway. *FEBS Lett.* 469: 123-131.
2. Kokame, K., et al. 2000. HERP, a new ubiquitin-like membrane protein induced by endoplasmic reticulum stress. *J. Biol. Chem.* 275: 32846-32853.
3. Kokame, K., et al. 2001. Identification of ERSE-II, a new *cis*-acting element responsible for the ATF-6-dependent mammalian unfolded protein response. *J. Biol. Chem.* 276: 9199-9205.
4. Sai, X., et al. 2002. Endoplasmic reticulum stress-inducible protein, HERP, enhances presenilin-mediated generation of amyloid  $\beta$ -protein. *J. Biol. Chem.* 277: 12915-12920.
5. Schulze, A., et al. 2005. The ubiquitin-domain protein HERP forms a complex with components of the endoplasmic reticulum associated degradation pathway. *J. Mol. Biol.* 354: 1021-1027.
6. Liang, G., et al. 2006. Luman/CREB3 induces transcription of the endoplasmic reticulum (ER) stress response protein HERP through an ER stress response element. *Mol. Cell. Biol.* 26: 7999-8010.

## CHROMOSOMAL LOCATION

Genetic locus: HERPUD1 (human) mapping to 16q13; Herpud1 (mouse) mapping to 8 C5.

## SOURCE

HERP (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HERP of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69495 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

HERP (L-13) is recommended for detection of HERP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HERP (L-13) is also recommended for detection of HERP in additional species, including bovine.

Suitable for use as control antibody for HERP siRNA (h): sc-75245, HERP siRNA (m): sc-75246, HERP shRNA Plasmid (h): sc-75245-SH, HERP shRNA Plasmid (m): sc-75246-SH, HERP shRNA (h) Lentiviral Particles: sc-75245-V and HERP shRNA (m) Lentiviral Particles: sc-75246-V.

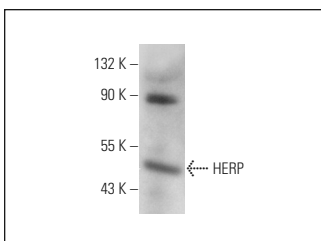
Molecular Weight of HERP: 54 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



HERP (L-13): sc-69495. Western blot analysis of HERP expression in mouse brain tissue extract.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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Try **HERP (19-Y): sc-100721**, our highly recommended monoclonal alternative to HERP (L-13).